Before the FEDERAL COMMUNICATIONS COMMISSION Washington, D.C. 20554

In the Matter of)			
)			
Service Rules for Advanced Wireles:	s Services)	WT Docket No. 0	2-353
in the 1.7 GHz and 2.1 GHz Bands)		

COMMENTS OF THE NATIONAL RADIO ASTRONOMY OBSERVATORY
The National Radio Astronomy Observatory (NRAO), by its attorneys, Reynolds and
Manning, P.A., hereby submits its Comments with regard to the Commission's
Notice of Proposed Rule Making, FCC 02-305, released November 22, 2002 (NPRM).

- 1. In the NPRM, the Commission proposes service rules for Advanced Wireless Services (AWS) in the 1710-1755 MHz and 2110-2155 MHz bands, including provisions for application, licensing, operating and technical rules, and for competitive bidding. The principal purpose of the NPRM is to eliminate regulatory barriers to new services so that service providers can put the 1710-1755 MHz and 2110-2155 MHz spectrum to its highest value use with minimal transaction costs and greater flexibility by licensees. NPRM at \P 2.
- 2. The Commission notes that "additional spectrum for advanced wireless services in particular, and for CMRS [commercial mobile radio service] services generally, is needed primarily because of the explosive growth in demand for service, and

the critical role such services now play in the efficiency and productivity of the nation's economy." Id. at \P 5. "The unique American challenge," the Commission continues, "has been to find sufficient spectrum to meet this need, given the intensive use existing users already make of suitable portions of the radiofrequency spectrum, including those bands identified by the ITU. In short, suitable underutilized spectrum is not readily accessible, and the allocation process involves balancing the costs of disruptions to existing users against the benefits of the new allocations." Id. at \P 8.

- 3. At the outset, the Commission proposes to utilize geographic licensing rather that site-by-site licensing. The Commission prefers geographic licensing because, in its view, such a scheme offers a number of advantages: greater licensee flexibility to respond to market demand, thus improving spectrum utilization; coordination of licensee usage across an entire geographic area to maximize the use of spectrum; reduction of regulatory burdens and transaction costs by eliminating site-by-site approval; and aggregation of licensee service territories without incurring the administrative costs and delays associated with site-by-site licensing, particularly for communications services requiring "ubiquity and mobility over wide areas." Id. at \P 17.
- 4. The NRAO was established in 1957 to provide sophisticated telescopes and related facilities to radio astronomers affiliated with universities, other observatories, government laboratories and private industry who might otherwise not have these resources available to them. Under the terms of a cooperative agreement with the National Science Foundation, the NRAO facilities are operated by a nonprofit corporation, Associated Universities, Inc., which was founded by nine universities: Columbia, Cornell, Harvard, Johns Hopkins, Massachusetts Institute of Technology, Pennsylvania, Princeton, Rochester and Yale. The NRAO currently oversees operations of radio astronomy observatories from Green Bank, West Virginia and Socorro, New Mexico.
- 5. The major telescope system operated at Green Bank is the new \$75 million Green Bank Telescope funded by Congress to replace one which collapsed. Green Bank is located within the National Radio Quiet Zone, a 13,000 square mile, rectangular area that was designed to minimize interference to radio astronomy research conducted there.

- 6. The observations made with many of the NRAO's telescopes could be significantly degraded if the Commission continues to chip away at the regulatory protections afforded the NRAO by site-by-site licensing and third-party determination of potential interference, relying instead on self-policing by Commission licensees. NRAO supports the Commission's efforts to facilitate telecommunications services to the public by removing unnecessary impediments to the provision of important services. However, without some measures of control to reduce the chances of interference, the potential harm to radio astronomy research, which is supposed to be protected under the Commission's rules, is greatly exacerbated.
- 7. The geographical licensing scheme employed by the Commission in other services and proposed to be used in the instant NPRM causes great concern to NRAO. The ability of the NRAO to identify the source of harmful interference is a difficult one, at best. However, the trend toward geographic and blanket licensing has hampered NRAO's efforts to identify, locate and contact the source for purposes of coordination and elimination of interference. It is one thing to encourage radio spectrum users "to make every practicable effort to protect radio astronomy facilities" but it is quite another when such effort fails, either through inadvertence, ignorance or, though rarely, by design.
- 8. The NRAO urges the Commission to adopt a licensing methodology that will permit rapid identification of the spectrum user in the event that harmful interference is received at a radio astronomy facility. While responding to the "explosive growth in demand for services", NPRM at \P 5, the Commission must continue to ensure that its rules do not hamper the NRAO's ability to prevent the contamination of its research. Otherwise, the Commission's stated goal of "balancing the costs of disruptions to existing users against the benefits of the new allocations" (Id. at \P 8) will fall short of achievement.
- 9. For the reasons outlined above, the NRAO opposes the use of geographic licensing for AWS in the 1.7 GHz and 2.1 GHz Bands when such licenses would permit operation of such services anywhere within the National Radio Quiet Zone. In addition, the NRAO would remind the Commission that the 1718.8 to 1722.2 MHz band should remain available for RA use and should not be made available for AWS use.

Respectfully submitted,

NATIONAL RADIO ASTRONOMY OBSERVATORY

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